

REMARKS

Applicants request favorable reconsideration and withdrawal of the objections and rejections set forth in the outstanding Office Action in view of the foregoing amendments and the following remarks.

Initially, the Office Action objects to the title of the application. In response, Applicants have herein amended the title, and submit that this objection has been overcome.

The Office Action also objects to the abstract of the application, specifically to the length of the abstract. In response, Applicants have amended the abstract so as to shorten its length, as well as otherwise improve its form. Applicants submit these amendments include no new matter, and that the objection has been overcome.

The Office Action further objects to claims 1-6 for various informalities. In response, Applicants have amended the claims in the manner suggested in the Office Action. Applicants submit these amendments include no new matter, and that the objections to the claims should be withdrawn.

Claims 1-6 remain pending, with Claims 1 and 4 being independent claims. Claims 1-6 have been amended herein. Applicants submit the amendments include no new matter.

Claims 4-6 are rejected in the Office Action under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Specifically, the Office Action asserts that these claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to make/or use the invention because the claims include only a single means clause.

Applicants respectfully traverse the rejection. Claim 4 has been amended herein so as to recite that the fixing means comprises fixing units which are heat-pressure-type fixing devices. Thus, claim 4 does not define a single “means” clause for performing functions, but rather a means which includes a combination of structures.

Applicants also traverse the rejection on the grounds that claim 4 is not of undue breadth. There is not a per se prohibition against claims with a single means clause, but rather single means claims are not permissible when the resulting claims are of undue breadth, such as in cases where the single means claim covers every conceivable structure for achieving a stated result. See MPEP § 2164.08(a). The plurality of elements of claim 4 eliminate the problems associated with undue breadth, as claim 4 contains several other elements that further clarify the claimed fixing device, thereby eliminating any problem with undue breadth. For example, claim 4 does not cover every conceivable means for performing the recited functions because it includes at least two fixing devices, as well as a combination of properties recited in the wherein clauses of the claim. Thus, Applicants submit the Section 112 rejection should be withdrawn.

Claims 1-6 are rejected in the Office Action under 35 U.S.C. § 103(a) as being unpatentable over Uehara et al. (U.S. Patent App. Pub. No. 2004/0057741) in view of Tanaka et al. (U.S. Patent App. Pub. No. 2005/0042534).

Applicants respectfully traverse this rejection, and submit the cited references fail to disclose or suggest the invention recited in independent claims 1 and 4 for at least the following reasons.

The Office Action cites Uehara et al. as disclosing a fixing method comprising heat-pressure-fixing an unfixed toner image formed on a recording medium by using a fixing means,

wherein the unfixed toner image is fixed when the recording medium passes through at least two fixing units arranged in series in a conveying direction of the recording medium. The Office Action cites, inter alia, paragraphs 130 and 143 of Uehara et al. as disclosing a maximum temperature on the recording medium when the recording medium passes through a second fixing unit (“T2” in the present application) to be 50 to 100°C, and paragraph 0098 as disclosing a minimum temperature on the recording medium during a time period commencing on ejection of the recording medium from the first fixing unit and ending on entry of the recording into the second fixing unit (“t” in the present application) to be equal to or greater than 80°C. The Office Action concludes, therefore, that Uehara et al. discloses the method to be as such that $T2 > t$.

The Office Action’s conclusion that Uehara et al. discloses $T2 > t$ appears to be based on the disclosure that T2 of Uehara et al. can be up to 100°C, whereas t can be as low as 80°C. Applicants respectfully submit, however, that the ranges disclosed in Uehara et al. do not in and of themselves necessarily evidence that Uehara et al. anticipates $T2 > t$. Uehara et al. discloses that t can be greater than 100°C, and therefore, anytime T2 is at its maximum of 100°C the method of Uehara et al. could be as such that t is still greater than T2. To this end, at no point in the reference does Uehara et al. expressly disclose that $T2 > t$, that is, at no point does the reference disclose a specific embodiment wherein T2 is greater than t.

In fact, Applicants submit that the disclosure of Uehara et al. makes clear that t must always be greater than T2. Uehara et al. discloses that the distance between the heating and temporary fixing unit 10 and the image gloss controller 30 (which are equated in the Office Action to the claimed first and second fixing units) must be made a distance within which the processing by the image gloss control unit is executed while the toner is still in a state that it can

be deformed by an external force. Uehara et al., paragraph 0099. In the terminology of Uehara et al., the temperature at which the toner can still be deformed by an external force refers to a temperature above the softening point of the toner. Uehara et al., paragraph 0101. Uehara et al. then discloses that at the image gloss controller, the toner is cooled so as to solidify the toner, i.e., so that the toner is no longer in a state that it can be deformed by an external force. Uehara et al., paragraph 0107. In order to cool and solidify the toner, the method of Uehara et al. must necessarily be as such that $T_2 < t$, that is, the minimum temperature on the recording material during the time period the recording material is between the image heating and temporary fixing unit and the gloss controller (t) must be greater than the temperature on the recording material when the recording medium passes through the gloss controller (T), otherwise the gloss controller could not function to cool the toner on the recording material.

The specific examples set forth by Uehara et al. support the conclusion that t is greater than T_2 in the disclosed method. In Examples 1 and 2 of the reference, the surface temperature of the gloss controller is $70 \pm 3^\circ\text{C}$, and the toner temperature at the time when the toner reaches the inlet of the pressing nip portion of the gloss controller is about 135°C . Uehara et al., paragraphs 0211, 0213, 0231, and 0233. In Example 3, the temperature of the toner is 135°C when entering the gloss controller, wherein it is said to be cooled down to 70°C . Uehara et al., paragraph 0251 and 0253. Thus, in all of Uehara et al.'s disclosed examples, it is apparent that $T_2 < t$.

Applicants further submit the secondary citation to Tanaka et al. does not cure the deficiencies of Uehara et al. Tanaka et al. is cited in the Office Action as toner with certain

properties. Applicants submit, however, that nothing in Tanaka et al. discloses or suggests the relation $T2 > t$ recited in independent claims 1 and 4.

For at least the foregoing reasons, Applicants submit that Uehara et al. and Tanaka et al., whether taken individually or collectively, fail to disclose or suggest the invention recited in independent claims 1 and 4 of the present invention.

Dependent claims 2, 3, 5, and 6 are also allowable, in their own right, for defining features of the present invention in addition to those recited in independent claims 1 and 4. Individual consideration of the dependent claims is requested.

Applicants submit the present application is in condition for allowance. Favorable reconsideration, withdrawal of the rejections set forth in the Office Action, and a Notice of Allowability are requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

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